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NPIC/TSG-023/70

20 JUL 1970

MEMORANDUM FOR: Director, National Photographic
Interpretation Center

SUBJECT : Request for Approval of Personal Services
Contract for Consultation in Visual Per-
ception with [REDACTED]

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1. This memorandum requests approval for the commitment of R&D funds for a contract. The specific request is stated in Paragraph 6.

2. The fields of visual perception, perceptual training, and physiological optics are becoming increasingly important to research on imagery interpretation. The definition and improvement of human performance in the Center exploitation process is becoming more and more critical as production requirements expand. This expansion of the demands made upon the photo interpreter promises to continue in the future. It requires that the interpreter's total interaction with the imagery he analyzes be thoroughly appraised. One of the key factors in this appraisal must be the workings of the human visual system in conjunction with the specific Center environment. Included in this environment are imagery characteristics, auxiliary optical instruments, and display and ambient lighting conditions. Dr. [REDACTED] expertise in these and related visual research areas has been an invaluable adjunct in the past to Research & Engineering Division's coordination of optical equipment development and human factors studies of PI vision. His continuing advisory services are deemed extremely desirable.

3. [REDACTED] consultation services will be employed on a periodic basis in conjunction with both specifically scheduled projects as well as with special problems as they may occur. His communication will be primarily with Research & Engineering Division's human factors personnel but will also be available to other Center components where appropriate. Specific consultation tasks planned for Dr. Leibowitz during the course of this proposed 12 month contract include the following:

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GROUP 1
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a. Guidance to Advanced Technology Branch Human Factors Section personnel on the implementation of advanced stereo acuity and color vision tests for Center interpreters and photogrammetrists;

b. Assistance to Engineering Support Division Test and Evaluation Branch personnel during their in-house assessments of newly delivered PI equipment where optical/visual parameters influence acceptance decisions;

c. Participation with [REDACTED] in the planning of an empirical study using the [REDACTED] Wide Field High Power Stereoscopic Viewer to determine the influence upon interpreter output of microscope field of view;

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d. Direct assistance to the Redwitz and Associates conducted Viewing Systems Study in which the specification of standardized optical system parameters must include consideration of the user's visual characteristics;

e. Guidance to the [REDACTED] Precise Mensuration Study where comparator design parameters such as magnification, illumination, and reticle configuration are functions of operator visual performance; and

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f. Aid to the [REDACTED] Color Training Program in which knowledge of the state-of-the-art of color vision and perceptual training will play a vital role.

4. Consultation efforts by [REDACTED] in the past have proven extremely beneficial to the Center's R&D programs. In addition to his several areas of substantive expertise mentioned above, [REDACTED] respected position within the academic community affords the Center indirect access to valuable resources otherwise unavailable to us. These additional resources include graduate students performing basic research in such relevant areas as visual accommodation and convergence in optical instruments, precise measurement of dynamic visual functions using the laser, and characteristics

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of color vision. Furthermore, the direct liaison which Dr. [REDACTED] has been able to perform on our behalf with selected authorities within the academic world has been, and will continue to be, an invaluable asset to the Center.

5. [REDACTED] will be the Project Officer for this contract. The sterility code, [REDACTED] is appropriate for this work; the Project Officer will assign security classifications to the reports.

6. It is requested that the negotiation with [REDACTED] for a contract to conduct the program described at a cost not to exceed [REDACTED] from Category I R&D Funds be approved.

Chief, Technical Services Group,
NPIC

Attachments:

1. Proposal
2. Form 2420

30 JUL 1970

APPROVED:

ARTHUR C. LUNDAHL
Director

Date

National Photographic Interpretation Center

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